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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/449,763 11/26/99 LEE

M 102306.09

EXAMINER

MM91/1221

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ROLR

ART UNIT

PAPER NUMBER

2837

DATE MAILED:

12/21/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/449,763

Applicant(s)

Lee

Examiner

Bentsu Ro

Group Art Unit

2837



☒ Responsive to communication(s) filed on Aug 30, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-8 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1 and 3-7 is/are rejected.

☒ Claim(s) 2 and 8 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

SECOND OFFICE ACTION -- A NONFINAL REJECTION

1. Applicant's amendment to the specification is acceptable and has been entered. The objection to the disclosure in paragraph 1 of the first office action is therefore withdrawn.

2. Applicant's argument of proper continuity with prior applications: SN 08/221,375 and SN 08/416,558, is convincing. Therefore, this application will receive the benefit of an earlier filing date. The objection set forth in paragraphs 2 and 3 of the first office action is also withdrawn.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims s 1, 3-7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Reeds US Patent No. 4,891,526**. (This is not a new reference, this reference is cited by applicant in PTO-1449, sheet #4 of 5 pages, filed 3/2/2000, paper No. 5.)

Reeds teaches the same subject matter as claimed, see the following comparison.

The claims:

Claim 1. A positioning device comprising

an object table,

a sub-system for processing an object to be placed on the object table,

Reeds teaching:

Reeds teaches a positioning device, specifically shown in Figs. 1, 3, 6;

Fig. 1 shows a x-y stage plate 12 which is an object table, a mounting block 4 mounted onto the x-y stage plate 12;

Fig. 1 shows a wafer 2 positioned on the mounting block 4, the wafer 2 is an object; on top of wafer 2, there is symbolically shown an ion-beam axis 6, the ion-beam axis 6 is produced by a sub-system (not shown in the drawing) for processing the wafer 2;

a drive unit for displacing the object table relative to the sub-system,

and a measuring system for measuring a position of the object table relative to the sub-system,

the drive unit comprising a stationary part

which is fastened to a first frame of the positioning device,

while the measuring system comprises a stationary part

and a movable part which is fastened to the object table for cooperation with the stationary part of the measuring system,

characterized in that the stationary part of the measuring system is fastened to a second frame of the positioning device

Fig. 7 shows a y-drive motor 36 for displacing the object table 12 in the y-direction (the direction perpendicular to the page) relative to the ion-beam axis 6;

Fig. 3 shows a x-interferometer 34 for measuring the position of x-y stage plate 12 relative to the ion-beam axis 6;

Fig. 7 shows the y-drive motor 36, which is a stationary part;

Fig. 7 shows the motor 36 fastened to the base 28, therefore, the base 28 is a first frame of the positioning device;

Fig. 1 shows the x-interferometer 34 which is a stationary part of the measuring system;

Fig. 1 shows a x-position mirror 30 which is a movable part of the measuring system, the mirror 30 is fastened onto the x-y stage plate 12;

Fig. 3 shows the top view of the assembly, including the interferometer 34, the mirror 30, the plate 12, the mounting block 4, and the wafer 2;

Fig. 4 shows a three-dimensional view of the same;

Fig. 1 shows the x-interferometer 34 mounted on the θ -stage platform 20, therefore, the θ -stage platform 20 is a second frame of the positioning device;

which is dynamically isolated from the first frame.

Claim 3. A positioning device as claimed in claim 1, characterized in that the object table is displaceable over a guide parallel to at least an X-direction, the guide being fastened to the second frame.

Claim 4. A lithographic device comprising a radiation source, a mask table, a projection system having a main axis

a substrate table....(all way through to the end of claim 4).

Claim 5.

Claim 6.

Claim 7.

5. The subject matter of claims 2 and 8 appears to be allowable.

Fig. 1 shows a vertically adjustable flexible mount 26a which mount 26a dynamically isolates the θ -stage platform 20 (the second frame) from the base 28 (the first frame); Fig. 6 shows the detail structure of the flexible mount 26a; column 9, lines 4-8 describe the spring constant of the flexible mount 26a; lines 22-27 describe the minimization of impact between the θ -stage platform 20 and the base 28.

Fig. 1 shows linear bearings 14a, 14b, 18a, 18b, etc, which are guides for the x-y stage plate 12.

the radiation source, the mask table, the projection system and the main axis are all symbolically shown in Fig. 1 by the ion-beam axis;

same as that of claim 1, discussion is omitted.

Same as that of claim 3.

Same as that of claim 1 but in a second direction;
Reeds teaches x-y- θ -z positioning stage including y-direction as mentioned in claim 1; the subject matter of claim 6 reads onto the x-direction.

Basically similar to that of claim 3 but in two axes x and y;
Reeds Fig. 1 shows two axes guides.

6. It is noted that claims 1-8 of this instant application are very similar to claims 1-3, 5, 6, 8, 9, 11, respectively, of the US Patent 5,953,105. However, for the time being, there will be no initiation of interference because of the following reason:

- **Claims are not allowable. Interference can be established only when the claims are allowable.**

However, in the near future, there may be an interference between the two parties.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication should be directed to Bentsu Ro at telephone number (703) 308-3656.

December 8, 2000

Approved
Stewart J. Levy
Stewart J. Levy, Director
Technology Center 2800
Group 2830

Bentsu Ro
BENTSU RO
PRIMARY EXAMINER